Abstract of the Disclosure

An organic electrolytic solution containing a lithium salt, an organic solvent, and an oxalate compound, and a lithium battery using the organic electrolytic solution are provided. Due to the oxalate compound, the organic electrolytic solution stabilizes lithium metal and improves the conductivity of lithium ions. Also,, the organic electrolytic solution present invention improves charging/discharging efficiency when used in lithium batteries having a lithium metal anode. Especially when the organic electrolytic solution is used in lithium sulfur batteries, the oxalate compound forms a chelate with lithium ions and improves the ionic conductivity and the charging/discharging efficiency of the battery. In addition, due to the chelation of the lithium ions, negative sulfur ions remain free without interaction with lithium ions, are highly likely to dissolve in an electrolytic solution. As a result, a reversible capacity of sulfur is improved.